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ILLEGIB

Aegis: A Nice Idea, But Does It Work And How Vulnerable Is It?

By Andrew Cockburn, New York

In the present uproar over military readiness, and the drawbacks of high-technology weapons systems, it is the Air Force and Navy aviation that have taken most of the knocks. F-14s and F-15s have provided good sport with their shocking mission capability rates, as have air-to-air and air-to-ground missiles. Meanwhile, more ostensibly old-fashioned weaponry—such as the Navy's surface vessels—have been getting off lightly. As one might expect, they deserve further examination.

Connoisseurs of sophisticated and expensive weapons systems were interested to note the budgetary sprint put on this year by the CG-47 *Aegis* cruiser. The *Aegis* procurement budget, as requested by the Defense Department, has rocketed from $825 million in FY 80 to $1.63 billion in FY 81. The CG-47 is a new class of cruiser (previously designated as a destroyer) that has had its share of controversy, not to mention Congressional ups and downs, since the early 1970s. The *Aegis* is a highly sophisticated and, of course, very expensive air defense system for protecting surface ships from attack. The estimated cost for 16 of them is presently reckoned at $15 billion.

The keynote to the system is a phased array radar coupled with ship-to-air missiles by means of a very complicated computing system. Simply

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DOD Solves Its Ordnance Shortage By Fiddling The Numbers

By Richard Barnard

The Navy and Defense Department are in the midst of a fiery dispute over a recent budget-cutting measure by DOD which, Navy sources say, will bridle its firepower and weaken its ability to protect itself, much less to devastate an enemy. The controversy swirls around DOD's across-the-board reductions in the FY 1981 procurement objectives for some of the Navy's most reliable and important munitions—such as the *Mark-48* heavy torpedo, the *Harpoon* anti-ship missile, and the Marine Corps' *TOW* anti-tank missile. In the case of the *Mark-48*, for example, the Navy will now be permitted to buy only about 3,000 of these torpedoes rather than the approximately 5,000 originally planned.

Prompted by howls of outrage from several senior admirals of the Atlantic and Pacific fleets, Navy leaders have taken the offensive in a recent series of meetings with DOD executives to iron out their strong differences over the inventory of bombs and projectiles which the Navy should have on hand. The Navy insists that the lowered ceilings will stretch their stockpiles of torpedoes, missiles and mines perilously thin and jeopardize the ability of their battle groups to project sufficient firepower long enough to defeat a well-armed enemy.

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INSIDE

The Chemical Lab On 'Active Duty'

By David Fishlock, Porton, England

The already somewhat overburdened British soldier soon will be able to go into battle equipped with an automatic chemical laboratory. This highly sophisticated portable pack, weighing about 12 lbs., will warn a platoon by means of red lights and alarms if the enemy is attacking with nerve gas. At such a warning, the soldier can don the new protective "armor" that British troops have been training with in recent exercises in southern England.

NAIAD (nerve agent immobilized enzyme alarm and detector) is one of the latest developments from Porton, Britain's Chemical Defense Establishment. It uses cholinesterase, the natural enzyme incapacitated by nerve gas, as its sensor. Another development is CAM, the chemical agent monitor, which can indicate when it is safe to dispense with protective measures.

A recent reorganization of British research efforts has brought together in one Porton laboratory (spending about $15 million a year) research and development of means to defend against both chemical and biological assault. Defense against bugs has become a small adjunct of the work directed there by Dr. Tex Watson. A group of about 10 professionals form a "microbiological watchtower" against new kinds of threat from this fast-advancing sector of science. The main laboratories of the former Microbiological Research Establishment at Porton, which once employed 400, have passed into the civil sector as the new Center for Applied Microbiology and Research, dealing with exotic public health problems such as Lassa fever.

Britain's latest defense spending estimates allocated an increase of 3.5 per cent on chemical (including biological) defense. Watson explains that, in the late-1960s, Britain was growing "rather complacent" about the threat of attack from such agents. But the 1970s saw a "tightening of resolve" by governments about what intelligence sources insisted was a growing threat. This year's defense estimates noted that "Soviet forces maintain large stocks of chemical munitions and are fully equipped and trained to operate in a chemical environment."

The Russians are even showing renewed interest in cyanide—prussic acid gas—as an offensive agent, although Porton believes that it is too slow-acting to be effective. However, a whiff of cyanide picked up by NAIAD could be enough to put NATO forces into protective armor, greatly reducing thereby their efficiency as a fighting force. NAIAD will pick up cyanide as well as the more sophisticated nerve agents invented in Germany during World War II.

According to British scientists, German war records show that the Porton laboratory's reputation was a significant factor in stopping Germany from using agents such as Tabum, which is ten times as toxic as phosgene, one of the First World War weapons. Today Porton is a leader in NATO collaboration on chemical and biological defense R&D. Its staff point proudly to its motif—a red cloud with a bayonet thrusting through it. Yet there are serious doubts as to whether good defenses are sufficient, because they are so cumbersome. Hence the call for NATO to have the capacity to reciprocate such a threat.

Watson stresses that his work remains defensive—designed to protect all three service arms against nuclear, chemical and biological attack and to improve the serviceman's chances of survival if hit by such agents. NAIAD is hardened against blast, heat and radiation "to the same extent as any man in the open," says one if its inventors. Thorn Automation is making it for the Army, at a price Porton puts at "under $10,000." It should come into service next year.

While Britain debates the desirability of having its own offensive capability, in the light of Russian stockpiles in Europe, NATO troops have been trying out Porton's latest fashions in protective garb during exercises on the 6,800 acres of Salisbury Plain used by Porton for trials. The so-called NCB (nuclear, chemical, biological) suits are designed to protect against all three kinds of agents, and are essentially the same for the three services.

The suit about to be issued to the Navy, for instance, can amount to about 100 lbs. or more of modern armor, including respirator, battledress, gloves and boots. It gives protection for up to 24 hours, although its most advanced version, which is still being developed at Porton, could give protection for up to a month, the scientists claim. The fabric itself is a composite structure incorporating activated carbon, still the most effective way of mopping up chemical agents. The trick lies in how the carbon is put on the cloth—enough is needed to do the job but not so much as to prevent

"Clinical trials of such drugs are a constant problem. Porton's medics are only allowed to expose 'patients' to one of the three main nerve gases and then only at concentrations involving 'absolutely no risk at all'."

the material from "breathing." Porton has also developed a charcoal cloth, although this is too expensive and insufficiently abrasion resistant for battledress.

A score of British companies associated with the manufacture of NCB suits for the three services recently staged an exhibition in Washington in an effort to sell the concept to the Department of Defense. They were endeavoring to convince U.S. officials that Porton is ahead of the Pentagon in its ability to protect against such agents as cyanide, nerve gases, mustard gas, and anthrax bacteria—all believed to be stockpiled as munitions by the Warsaw Pact.

Porton has also tried hard to develop drugs that help to protect servicemen against any agent which might be ingested. The existing technique is to carry automatic injectors of atrophine for use if the man believes he might have been exposed to nerve agent. Porton has discovered that atrophine's efficacy can be greatly enhanced if the user takes a drug called pralidoxime mesylate or P2S beforehand. The problem is that although P2S combined with atrophine will allow the soldier to survive several times a lethal dose of nerve agent, the pills themselves are veritable "horse pills" and must be swallowed whole. The service man would "go into action rattling", remarked one of Porton's medical researchers. They have high hopes of a new pill, much smaller and much less frequently needed.

Clinical trials on such drugs are a constant problem. Porton's medics are only allowed to expose "patients" to one of the three main nerve gases, and then only at concentrations involving "absolutely no risk at all". Nevertheless, they can reproduce some of the symptoms of nerve agent poisoning—nowhere near the stage of convulsions, but such symptoms as an increased flow of mucus and a tightening of the chest. To be sure that they have a useful form of prophylaxis, however, scientists would have to expose man to much greater concentrations than are permitted. As one medical researcher says philosophically: "After all, we're trying to protect against death—and you can't simulate that."

LOW-ALTITUDE 'CHUTE MAY CHANGE AIRBORNE ASSAULT TACTICS

By Richard Barnard

A new type of parachute developed by a retired Army intelligence officer promises to revolutionize the airborne assault, making it a more secretive and potent weapon in the hands of an attacking force. Christian Koenig, an intelligence officer for the 82nd Airborne Division prior to his retirement in 1976, says that his parachute enables airborne troops to jump at altitudes as low as 250 feet, one-third the current minimum of 750 feet considered safe by the Army. This means that aircraft loaded with soldiers could fly underneath enemy radar and disperse paratroopers without detection. Koenig told *Defense Week* that his parachute also provides an added measure of safety for troops in combat: "If the enemy can't see you, he can't shoot you," Koenig said.

The Koenig parachute is a modification of the standard T10-B parachute issued to every Army jumper. Koenig's basic innovation is to attach six air pockets to the outside bottom skirt of the parachute. These pockets catch the air and force the chute open almost immediately after a jumper leaves an airplane. This eliminates any freefall or acceleration by the parachutist, permitting a slow rate of descent. The slow descent makes low altitude jumps possible. The standard chute is forced open by air rushing through the apex of the canopy, which takes longer, according to Koenig. A jumper with a standard Army chute falls at the rate of 17 feet per second, compared to about 10 feet per second using the Koenig parachute.

Koenig's parachute was demonstrated at Fort Benning, Ga. on June 5, before military representatives of several NATO countries. Five men, including one of Koenig's business partners, jumped from a C-130 Hercules troop transport at an altitude of 300 feet. An Army official who witnessed the jump said the parachutes "opened reliably and quickly". The official cautioned, however, that "you can't make any conclusions about a parachute until you have tested it in at least 1,000 measured and recorded jumps, and we're not anywhere near that" with the Koenig parachute.

Over the last two months, the Koenig parachute has undergone a series of tests conducted by the Army Airborne Board at Fort Bragg, N.C. Col. G. G. Thomas, president of the board, is not bubbling with enthusiasm about Koenig's innovation. "We've finished only a third of our tests and we can't draw any conclusions," Thomas said in a telephone interview, "but I've seen nothing to date to indicate that this new parachute is a significant improvement over the T10-B. If there's any difference in opening time, it's very slight." Thomas was quick to explain that the tests are conducted with wooden dummies, not with "our jumpers." Dummies weighing from 180 to 200 pounds are strapped into Koenig parachutes and dropped from transports at altitudes between 1,000 and 1,200 feet. Drops at 200 feet will be conducted soon, Thomas said. The Airborne Board's tests are to be completed in October.

Koenig said he was uncertain of "what the board is doing with the chute" but has been told the Army has decided to expedite its testing. A NATO country has decided to purchase some Koenig parachutes, Koenig said, but he declined to provide any details of the forthcoming sale because much of the legal groundwork necessary to protect his patent applications in 12 countries still must be accomplished.

In addition to greater secrecy and safety, Koenig says his parachute offers these advantages over the standard Army parachute:

- A 75 percent reduction in the amount of time paratroopers spend floating to earth and providing enemy riflemen with excellent targets.

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Parachute
(Continued from preceding page)

• Faster separation of the parachute from the suspension lines, reducing the likelihood of a fouled chute.

• Less pull on the soldier when his parachute opens, thanks to the gentle action caused by the six air pockets, or "parachute inflation assistance devices," as they are called in the military lexicon.

Koenig, a master parachutist during his Army days, retired as a chief warrant officer. During his 20-year military career, he was awarded the Legion of Merit, Bronze Star, Purple Heart and 27 other medals. Koenig said development of a low-altitude parachute "was sort of a mission with me. In Vietnam, I saw a lot of guys die because their helicopters were shot down. They might have lived if they had been able to jump out," with the aid of a parachute which would open rapidly. Koenig and his partners, Jim Cazer and Duane Calhoun, both of whom are parachute riggers for the National Guard, began work on a new chute in 1976 using simple wind tunnels they developed themselves. Over the next three years, the three invested about $100,000 in development and promotion of the Koenig parachute.

They attracted little attention from the military services, however, until a fortuitious turn of events in early 1979. Koenig heard that Gen. Frederick Kroesen, then the Army's Vice Chief of Staff, was to visit Maxwell Air Force Base near Koenig's home in Prattville, Alabama. Koenig had served as Kroesen's intelligence officer when the latter was commander of the 82d Airborne Division's "Screaming Eagles." Koenig and his friends invited Kroesen to the base officer's club to view a 30-minute film about their parachute. Impressed, the general ordered a thorough test of the new apparatus by the Army's Training and Doctrine Command, of which the Army Airborne Board is a part.

The Army's initial indifference to his parachute now matters little to Koenig. He said, "This thing is going to work. We can get the jumps down to 250 feet. You'll see."

Soviets Using Unbeatable Nerve Gas?

Sen. Robert Dole (R-Kans.) says he has obtained "convincing evidence" that the Soviet Union has a chemical warfare capability against which the U.S. "has no defense whatsoever." The pervasive and potent qualities of the Soviets' new X-Gas "extend far beyond our greatest fears," Dole said in a recent speech on the floor of the Senate.

X-Gas can invade the chemical filtering systems in U.S. gas masks, tanks and personnel carriers, Dole asserted, "and render its victims unconscious for 24 to 36 hours without rendering death, providing the perfect opportunity for the aggressors to move in for the kill....Whole units and regions can be overrun...with minimal effort and without the damage that would otherwise be incurred during the course of combat as we know it." Relying totally on information he obtained from Galen Greer, a reporter for *Soldier of Fortune* magazine who recently returned from Afghanistan, Dole said: "The Soviets are currently using this gas indiscriminately against insurgents and civilians in that country."

When queried about whether the Soviets actually have such a gas, a Defense Department spokesman said U.S. intelligence "has nothing on it."

Brazil Finds Third World Is A Lively Market For Its Simple, Unsophisticated Weapons

By Walt Harris in Sao Paulo

The Carter Administration's policy of allowing U.S. military sales only to countries with acceptable human rights policies has had at least one effect that its architects would deem undesirable. Two Latin American nations—Brazil and, to a lesser extent, Argentina—have been spurred by American hesitancy to extend military assistance into building their own defense industries. And to ensure that their industries will be economically viable, both countries are building enough capacity in weapons manufacturing that a major push for export markets is taking place.

In the past two years the Brazilian defense industry has leaped into the export trade. And American government officials in Washington and in Brazil are keeping a watchful eye on this developing trade, since the conservative Brazilian government, which controls a large part of the new industry, appears to harbor no qualms about dealing with even the most radical regimes. While there have been some exports to neighboring Latin American nations, the Brazilians have achieved their greatest success in promoting military sales from Engesa, the private Brazilian defense firm, and the government of Libya, for 125 lightweight *Cascavel* tanks. Already they have been deployed alongside Soviet T-62 tanks in border skirmishes with Egypt.

There is nothing secret about Brazil's booming defense industry nor about its arms exports. A recent article in the Brazilian news weekly *Veja* entitled "The Arms Market: Brazil Enters the Game," outlined the recent developments in the industry and plans for expansion. By specializing in weaponry of only moderate sophistication, such as lightweight tanks and armored cars, machine guns, and planes for military transport and training, Brazil has drawn on its own experience and military needs to become a chief arms supplier to Third World nations who share similar aspirations.

Estimates vary on the amount of income arms sales have brought to Brazil, but it is clear that the industry

has grown from selling a mere $10-15 million in exported weaponry two years ago, to selling hundreds of millions of dollars' worth today. Less than ten years ago hardly more than a group of seven gun manufacturers, the Brazilian defense industry today encompasses a total of 55 businesses employing 17,000 workers. In 1979, arms exports reached fifth place among Brazilian exports of manufactured goods.

When the Carter Administration two years ago initiated its human rights policy and carried through on threats to stop sales to Argentina during a period of particularly harsh political repression there, Brazil was in a strong position to ignore similar American threats. Although the U.S. did not prohibit military sales to Brazil at the time, Brazilian authorities viewed the Carter policy as interference in their affairs, and took the opportunity to speed up the pace of own their own defense program.

The industry drew on the expertise of military and civilian personnel trained at the highly respected Aerospace Technical Center in Sao Jose Dos Campos, halfway between Rio De Janeiro and Sao Paulo. At the same time, Brazil entered into licensing agreements, particularly with the Italian defense industry, to buy needed technology. The military also shrewdly perceived that in developing this type of moderately sophisticated weaponry, Brazil would be able to fill in a technology gap between highly sophisticated American, European and Soviet arms, and readily available guns and ammunition. Brazil would provide a source of light vehicles and aircraft now in keen demand from the growing armies of the Third World, especially in the Middle East and Africa.

The success of Engesa, the Sao Paulo-based private firm which has three factories employing 2,200 workers, in marketing its goods to the Middle East has stimulated the interest of other companies, both private and government-owned. The *Cascavel's* relatively low price of $400,000 per unit makes it particularly attractive to small Third World nations. The *Cascavel*, made of lightweight high-strength steel, is a 12-tonne armored vehicle that can maneuver easily in rugged terrain and cross 300 kilometers of desert in ten hours. In addition to sales to Libya and the Brazilian Army, other sales include 20 *Cascavels* to the Persian Gulf nation of Qatar.

Among other weapons developed by Brazil is a version of the M-41 tank first used by the United States during the Korean War. The private Sao Paulo firm Bernardini has adapted the old M-41, famous for its firepower but now notorious as a gas guzzler, into a diesel-fueled M-41B with a Saab motor. Since the new model burns about one liter of gas per kilometer—compared to about seven liters per kilometer for the old version—the Brazilian brand could be a hot item as arms buying nations grow increasingly aware of energy constraints. *Veja* reports that the U.S. Army is among those armies that have been negotiating to buy adaptor kits to turn M-41s into the Energy-efficient model.

Still other new Brazilian arms up for sale include the *Xavante* AT-26 training and attack airplane. The *Xavante* is the work of Embraer, the state-owned aircraft company which started up in 1969 and now employs 5,000 workers. Until recently, Embraer's production was geared primarily toward civilian aircraft, based on years of involvement with the America's Piper Aircraft Corp. Military training planes, however, are "the big thing" in the Third World these days, according to a military attache at the U.S. Consulate in Rio De Janeiro, and Embraer is poised to pick up a large share of the market. The Air Force of Togo is among the first foreign buyers of the Brazilian *Xavante*, which is modeled after Italian antecedents.

Additionally, Embraer has developed a plane named the EMB 111 *Bandeirante*—designed for marine warfare against submarines and small warships. The *Bandeirante* has already been sold to the Brazilian military as well as the Chilean Navy. The Beretta submachine gun, now made in Brazil under an Italian license, is produced primarily for export. Other weapons in production or in various stages of development include new transport planes, missiles, missile launchers, flame throwers: the type of light weaponry so much in demand in the Third World today. Brazil has little interest in competing in heavier arms, dominated by the U.S., European and Russian defense industries. But the Brazilians still harbor visions of building more sophisticated equipment. The most interesting expansion plan is a six-year project initiated last year to develop Brazil's own submarine.

American government officials say Brazil was preparing to jump into the arms export business with or without the sudden assertion of the U.S. policy on human rights. But the Carter Administration's human rights stance signalled to the Brazilians that they could no longer depend on a traditional supplier for their military needs, so domestic arms manufacturing gained impetus.

There are news reports that the U.S. Army is among those negotiating to buy adaptor kits from Brazil to turn American M-41 tanks into a more energy-efficient model....

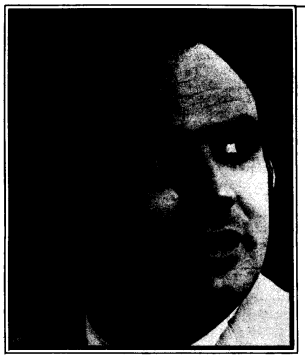
Now the Brazilian government is following the classic Third World industrial development scheme of import substitution and export development. Rather than substituting lost American sources with European arms, Brazil has developed its own industry and can now offer its expertise to Third World nations with similar desires.

American career diplomats privately scoff at Carter's human rights policy. They argue that governments in the developing world resent the American insistence on human rights and nuclear safeguards, and that by withholding military aid and sales, the U.S. has lost much of its leverage over these countries' policies. At the same time, the American defense industry is missing countless overseas contracts.

But other members of the U.S. defense establishment say the debate over arms sales loses sight of the fact that the human rights drive has achieved dramatic success, especially in Latin America. Although proud, nationalistic nations like Argentina and Brazil publicly reject American human rights initiatives as unwarranted interference, this same pride and quest for acceptance among advanced Western nations has led the military regimes to loosen their grip over the past year.

Defense Week Interview With Rep. Les Aspin

'We Have To Get A Lot More Scared Than We Are...'



An easy informality, the kind of bookish disorderliness one would expect from an academic, surrounds Rep. Les Aspin (D-Wis.) in his Capitol Hill office. A shaggy grey and white dog named Junket greets visitors and lingers for a scratch behind the ears. Aspin used to say that she was his only Congressional junket. After taking a trip to China he abandoned the pun, although not the dog. In his office, Aspin leans back perilously in his chair causing visitors to fear for the large mirror that tilts, unhung, against the wall behind him.

The sense that this is the office of a genteel and somewhat rumpled professor is no accident. More so than most members of Congress, Aspin is acquainted with the world of ideas. After graduating with honors from Yale in 1960, he received a Master of Arts from Oxford in 1962 and, in 1965, a Ph.D. in economics from the Massachusetts Institute of Technology. Before his election to Congress in 1970, he was an economics professor at Marquette University in Milwaukee.

He was an aide to William Proxmire, the unorthodox senior Senator from Wisconsin, from 1960 to 1962 and a staff assistant to chairman Walter Heller of the President's Council of Economic Advisors in 1963. In 1964 he ran Proxmire's reelection campaign. During Army service from 1966 to 1968, Aspin served as an aide to Defense Secretary Robert McNamara. He won election to the House at age 31.

As a member of Congress, Aspin has gained influence in his chosen area of expertise—military affairs— out of proportion to his seniority. After obtaining a seat on the Armed Services Committee, he quickly moved to use the only weapons available to a junior member trying to buck the leadership—the press release and the floor of the House. Aspin quickly discovered that reporters have an endless appetite for stories about Pentagon mismanagement and waste, especially when, upon investigation, most of them turn out to be true. He quickly developed a reputation as an accurate and trenchant critic of bloated defense budgets at a time when defense spending was less popular than it may be today.

His releases, usually mailed out on Friday to catch the Monday morning editions, often present a well-researched alternative to the standard line offered by Administration spokesmen. When the Carter Administration was overwhelmed by more than 100,000 Cuban refugees last month, Aspin revealed that Carter should not have been taken by surprise. The CIA had predicted the exodus months in advance. In response to the cries of alarm about the Soviet gains in missile technology, which are used to bolster arguments for the $50 billion MX missile system, Aspin's release (given significant play in last Monday morning's dailies) said that U.S. improvements in numbers and sophistication of missiles outweigh those of the Russians.

On the floor, Aspin has taken on the leadership and won. In 1973, he succeeded in cutting almost $1 billion from the defense budget over the opposition of Armed Services Committee Chairman Edward Hebert. When the Watergate class of 1974 arrived on Capitol Hill and began to flex its muscles, Aspin was among those who plotted the ouster of the autocratic Hebert and his replacement by Rep. Melvin Price (D-Ill.)

As military spending has become more popular, Aspin's guerrilla attacks against the Pentagon have lost some of their sting. In addition, age and experience have changed Aspin. He is now a bit more conservative than during his early years in the House. Richard Barnard and Ken Maize of *Defense Week* talked with Aspin recently about his current views on defense policy.

Q. You voted against the 1981 defense authorization bill. Why?

A. The authorization bill has become such a mess now that it is not a serious document. The people on the House Armed Services Committee just add things on for their own constituencies and then they get credit at home for having put it into the bill. In fact, it doesn't mean anything, because in the budget resolution process and the appropriations process, those items come out. So it is not a serious document.

Q. Does the House Armed Services Committee have an important influence on the shape of the military budget?

A. Only in the areas of pay and allowances and setting the laws and regulations on personnel and compensation issues.

Q. When you first became a member, did the committee leave its palmprints on the budget?

A. Yes, it was an important committee.

Q. Why the change?

A. First, we used to go through a much more critical examination of defense [issues], in terms of the amount of money [authorized] and what we were authorizing it for. But the committee never kept up with that. So you end up with the committee composed mostly of people who are trying to protect something. It's a constituent service rather than a defense committee. It's a public works committee. The House Armed Services Committee does almost nothing in defense policy. I'm talking about the procurement part of the defense authorization bill. Obviously, the committee has influence over pay, allowances, doctors' bonuses, and all those things are important. But in terms of defense procurement, the committee doesn't matter any more.

Q. Given your low opinion of Armed Services Committee, why do you continue to serve on it?

A. It is a way to get into a lot of very interesting defense and foreign policy issues. And the personnel issues are not trivial. They are very critical. What the Armed Services Committee says is important because Congress tends to go along with what the committee does in this area. Also, if I could stay long enough to become a subcommittee chairman, the subcommittee would do what I want.

Q. How long will that take?

A. I don't know.

Q. There are some major changes coming.

A. [Rep.] Charlie Wilson [D-Calif.] lost his primary recently. [Rep. Richard] Ichord [D-Mo.] and [Rep. Lucien] Nedzi [D-Mich.] are leaving.

Q. Any possibilities of another coup d'etat?

A. Against Price? No, no way.

Q. Why not?

A. He's too decent a chairman. He shouldn't be thrown out; he is a very fair chairman.

Q. You voted against the defense budget resolution as well as the authorization bill. Why?

A. I thought the defense budget was too high.

Q. By how much.

A. Oh, I don't know. It could have been a little higher than the House-passed version and I still would have gone along with it.

Q. You are among those who want to see real growth in the defense budget?

A. I think real growth is necessary, yes.

Q. At what level?

A. A couple of percent, maybe.

Q. What about the line items in the budget? Do they concern you more?

A. Yes. When you are talking about one or two percent growth, it matters more what you spend it on than how much you spend.

Q. How should it be spent?

A. Everybody says the same things over and over again: more on readiness, more on the nuts and bolts, less fancy equipment, more standard stuff.

Q. The Administration is talking a lot about the need to pay more attention to operations and maintenance. Is the Pentagon serious about it?

A. Not serious enough. In each of the next five years, according to the Pentagon's figures, the increase in defense funds generally is between 6.6 and 11.7 percent. That's for everything. The planned increase for O&M varies between 3 percent and 0.5 percent per year. They are increasing procurement a lot more than they are increasing O&M, yet they keep saying O&M is the item they are missing.

I think that the main thing is having a force that is ready and able to fight, and to be able to deal with contingencies in a professional manner. And that is partly a function of how much we spend. There is a good case to be made for spending more money there. But part of the problem is that we are not being very serious about this whole business. I constantly get the impression that we are not scared enough yet to overcome the bureaucratic stratification which works against having an effective force. There are lots of examples of how that hurt us during the war in Vietnam: the constant rotation of people through there with six month tours of duty, for example. That is a sign that you are really not taking a war seriously. You are using it as a training ground.

This recent fiasco in the desert is another example. Everybody wanted in. Nobody wanted to let the Marines have the whole show. So you got the Air Force C-130s, Navy helicopters and a commando team made up of all different services with jumbled lines of communication. That's an indication of a lack of serious intent. I have heard some horror stories—I don't know whether they are accurate or not—about discussions going on [during the mission] and nobody knowing exactly who is in charge. I haven't run it down to verify it, but someone was telling me about a night vision device the military was testing on the raid. They discovered the new one wasn't much better than the old one. [Is it possible that] we were running experiments [on this mission], I mean, is this some kind of an exercise?

Everybody, every contractor, wants to get his little piece of equipment [used] so they can advertise in the service magazines: 'The night vision device used on the Iran raid!' That is the kind of bureaucratic stuff going on....We are not serious; we're not serious at all.

Q. In the closed committee hearings on the mission in Iran, did you or anyone else ask why we had a tri-service force?

A. You'd get some bullshit answer back, but the real reason, I'm sure, is that all [three services] wanted a piece of it. Spread the risk, spread the reward, spread the blame. Everybody wants a piece of the action.

Q. There has been a lot of talk about the need to really examine that mission. Has anyone done that?

A. It's one of those things that's over and everybody wants to forget about it. Reminds you a lot of Vietnam, doesn't it? But there is a lot still to be learned, just as there is a lot to be learned from going back and looking at Vietnam some more. But there's no stomach to do it.

Q. What does it take to get serious?

A. I don't know. I think we have to get a lot more scared than we are. We're scared enough to want to increase the defense budget, but we are not scared enough to get serious about what we buy or how we deploy forces, and to stop worrying about who gets the bureaucratic credit.

Q. The President has a military education. Do you see any evidence of that?

A. No.

(Continued on next page)

Aspin Interview *(From preceding page)*

Q. What do you hope to accomplish in your work in the intelligence field? Should there be a new charter for the CIA?

A. That is possible, but the main issue is: how good is your intelligence? Are there things you can do to make it better? I don't know the answers yet. I am in the midst of a whole set of hearings on these questions.

Q. Has the CIA been handcuffed and, if so, has this resulted in poor intelligence?

A. Intelligence has nothing to do with whether the agencies were handcuffed or not. The handcuffing applied to their covert operations and a few invasions of privacy in this country. But in terms of foreign intelligence—which is what you hope that the CIA and the intelligence community in general is going to provide for you—nothing was ever done about that. It wasn't even examined much. The Pike committee focused on constitutional abuses.

Q. How do you assess the quality of intelligence?

A. You need a benchmark in order to judge. An event is either predicted to happen or not happen, and it does or it doesn't. Other ways? We know, for example, at any one time, with a very high degree of accuracy, how many missiles the Soviets have. And we project that ten years into the future. After ten years, you can see how good the forecasts were.

Q. Defense Secretary Robert McNamara's way of resolving his irritation with the CIA was to form the Defense Intelligence Agency. Is there any need for one intelligence agency in McLean and another in the Pentagon?

A. Ideally, you want to eliminate duplication in collection and promote duplication in analysis. DIA has had a lot of problems with this, but as a general proposition you want to encourage different ideas, promote competition, and reduce the probability of a mindset developing. You need somebody to question the assumptions.

Q. How good a job is Harold Brown doing?

A. He has been a very good secretary of defense. He is probably more technically competent than anybody else who has ever held that job, in terms of being able to understand the weapon systems and what they mean and their technical capabilities. It is hard to find a lot of real 'dogs' in the Pentagon budget in terms of weapon systems.

I wish he would talk out a little bit more about the philosophy of defense. He does not look on that as a major part of his job. It means there is a vacuum there because nobody in the Administration is conceptualizing about defense. Nobody is saying, 'Here's our philosophy of defense. Here is where we are going and here is what we are trying to accomplish. This is what the money is for.'

DOD's Computers Poised To Learn A New Language

By Patrick Murphy

The Defense Department has almost finalized Ada, its new computer programming language, and will shortly begin to introduce it to military use. An Ada Joint Programming Office is to be set up in the Pentagon at the beginning of next month and Ada is expected to be added to the DOD's list of approved programming languages. At the same time, three of the seven languages now on the list will be dropped. Ada is the outcome of a design competition last year that was won by Cii-Honeywell Inc. of Minneapolis. The competition was part of an effort by DOD to develop a language for use in programming DOD's huge computer capability during the 1980s.

"Ada is designed particularly for use with embedded computer systems," says DOD official David Fisher, who has worked on the project for the last five years. "Embedded systems are ones incorporated into a larger system—a ship, a plane or communications network—whose primary function is not computation. Also, one of Ada's most important characteristics is its great flexibility: it is both machine and operating system independent."

Perhaps Ada's most striking feature, however, is the fact that it was designed to be suitable for both DOD and industrial process use, thus making possible a direct interface between the military and industry. A real-time control capability facilitates the language's use in areas like avionics, refining and communications. Ada supporters believe that it will become to industrial process control what FORTRAN is to science and COBOL to business. In the private sector, aerospace and shipbuilding companies have already expressed interest in the new language and the European Community has given it an important boost by adopting it as its standard for industrial process control. British and West German defense department officials worked with the Pentagon in developing Ada.

Within DOD, the new language is gaining acceptance, especially from the Army. The Air Force and the Navy are both interested, although they are anxious to see Ada prove itself as both have large investments in existing software. DOD policy is to use Ada in new systems, but not to require conversion of existing ones. On some big projects, however, old systems may be reprogrammed because this will be less expensive than continuing to work in the old language.

Another attractive—if more whimsical—aspect of Ada is that it does not add to the cacophony of DOD acronyms. The language is named after Ada Augusta Byron, daughter of the poet, and a mid-19th century mathematician. She worked as a programmer for Charles Babbage and his mathematical "engine", a forerunner of today's computers.

Christopher Raber has been named manager of aerospace strategic planning and development operations for General Electric's Aerospace Group in Valley Forge, Penn. Previously, Raber was general manager for strategic systems programs.

DOD's Ordnance Shortage

(Continued from page one)

Critics of the DOD measure contend that the new ceilings are based on some artful arithmetic rather than on realistic estimates of the Navy's long-range needs for several types of munitions. Part of the dispute involves a single mathematical formula used to compute nonnuclear ordnance requirements. Previously, DOD based its procurement programs on the estimated numbers of bombs and missiles needed to provide a "99 percent confidence level" that Navy ships will have the firepower to destroy a given number of assigned targets. To obtain that confidence level, the Pentagon computes the probability of kill ratio for each bomb and missile. Those ratios are projected against given targets, such as the 350 Soviet subs and 400 merchant ships that are supposed to be fodder for U.S. attack submarines. In a recent policy change, that confidence level figure was dropped to 94 percent. Now that expectations have been lowered, the Navy no longer needs as many torpedoes and missiles to do its job. Or so the theory goes.

Translated into hard figures, this seemingly innocuous drop of five percent means the Navy will be allowed to buy about 5,000 *Mark-46* light torpedoes, rather than the roughly 9,000 originally planned. The inventory objective for the Marine Corps' TOW is now less than 2,300 rather than the original objective of 2,500 to 3,000. Inventory objectives for other Navy munitions, including the *Stinger* and *Dragon* portable missile systems, have undergone similar reductions, according to DOD statistics. The same applies to armaments of other services, such as the Army's *Lance* and *Hellfire* missiles.

The procurement objective for the Navy's *Harpoon* anti-ship missile has been lowered by about a third to roughly 2,000, a change which the Navy finds difficult to counter since the magazines of its *DD-963 Spruance* class destroyers, *Oliver Hazard Perry* class guided missile frigates and some cruisers hold only eight *Harpoons* each.

To some observers, the Pentagon's new procurement ceilings mean that the Navy's ordnance stockpiles are being maintained at unacceptably thin margins. An excellent case in point, sources say, is the *Mark-48*. Priced at $600,000 and driving a warhead of over 550 pounds, it is a proven weapon for the 90 attack submarines planned for the Navy, including 73 in the fleet and 17 still to be built. Each sub, including the new *Los Angeles* class, can carry 24 *Mark-48s*, meaning the inventory objective should be 2,160 torpedoes just to arm the ships. In addition, the Navy will use almost 300 annually for practice firings. Another 450 torpedoes normally are in transit for refittings and the like. These figures equal the Navy's inventory ceiling for *Mark-48s*, which prompted one government official to remark: "I hope they never have to come in and reload." In addition, the new procurement ceilings "assume that our logistics system is going to be perfect—that we're going to have the right number of torpedoes in places like Pearl Harbor, Mare Island, Calif., Norfolk, and the Mediterranean at exactly the right time. I wonder if that will happen," said this official, who regularly monitors the services' munitions inventories.

Even assuming that the attack subs will fill some of their 24 tubes with *Harpoon* or *Tomahawk* missiles, procurement ceilings for these and other armaments are dangerously low, critics argue, in light of the salvo-firing tactics used to counter the Soviets' capability to electronically foul some of the Navy's radar-guided torpedoes and missiles. "If you're being jammed, you'll take two or three shots to make sure at least one hits the target. You're not going to sit there and worry about confidence levels. Our inventories are not based on these realities," a Navy official said. The several thousand *Mark-46* light torpedoes on hand provide little comfort since, in practice firings, their 120-pound warheads have taken to bouncing off the hulls of some types of ships, according to Navy reports.

The procurement objective for the *Captor*, the Navy's only deep-water mine, was reduced from about 6,000 to less than 1,000, "which is about enough to mine half a harbor," said a government official. The *Captor* is an antisubmarine mine which senior Navy officials consider essential to block certain shipping lanes in the Sea of Japan and the United Kingdom-Greenland-Iceland gap that are vital to the nearly land-locked Soviets. In late December, DOD reduced funds for the mine, partly because of what it found to be poor performance. However, Adm. Thomas Hayward, Chief of Naval Operations, has said repeatedly in recent months that the *Captor* is effective and needed and that he will seek increased procurement.

The lowered procurement ceiling for the *TOW*, the Marine Corps'anti-tank missile which can be carried by infantry troops and rapidly assembled in the field, is particularly vexing to some service officials, since the Corps has been criticized of late for a lack of heavy firepower, especially the type which would be needed in a heavy-armor environment such as Central Europe or the Middle East. The Corps had wanted to increase from two to three *TOW* shooters per company, a goal which may prove elusive.

The Trouble With *Aegis*

(Continued from page one)

put, the phased array dispenses with the old-fashioned revolving radar dome mechanically sweeping the skies. Instead, the fixed panels of this system can sweep instantaneously, thus theoretically being able to keep oncoming targets under constant observation. The data thus received is fed to the computers which can then direct the ships and their ship-to-air missiles with unerring accuracy.

So much for the concept. But it is not often pointed out that this rather baroque system is only the latest offspring of a family tree that goes back to the 1950s. The progenitor was called SAGE, which stood for Semi Automatic Ground Environment. In this system, a dozen command centers around the U.S. would direct and coordinate the air defense of their respective zones, and would in turn feed data to North American Air Defense Command HQ at

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The Trouble With *Aegis*

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Colorado Springs. By 1960, after the U.S. had spent $20 billion on SAGE and related air defense facilities, they called a halt. Though the system was not yet fully operational, the Pentagon concluded that it was already obsolete and could never work anyway.

Despite this setback the system lived on. If it was no good for the United States, the reasoning went, it might do for the allies. So the sons of SAGE—Nadge and Badge—grew and prospered in Europe and Japan respectively. The essential elements of the system were also incorporated in the airborne AWACS and E-2 variants. And so we have in this generation *PATRIOT* for the Army and *Aegis* for the Navy.

The rationale for *Aegis* is that the Navy does not presently possess the means to counter high intensity Soviet anti-ship missile attacks. *Aegis* is expected to supply that answer, but information reaching *Defense Week* indicates that—despite years of work—the Navy and RCA, the prime electronics contractor, have not yet mastered all the problems. Earlier this year, the General Accounting Office circulated a classified report on the system. An unclassified section of this report indicates just how bad some of the problems are.

The Navy has the less-than-ambitious goal of 80 percent operational availability for *Aegis*. But, according to the report, "the Navy considers [the 80 percent goal] as unrealistic and invalid under its current logistic system. The Navy expects that the actual level of operational availability will be 43 percent or less." This is disastrous, as it means that they will be unable to replace defective parts fast enough to keep the whole system in working order even half the time.

Furthermore, the Navy had hoped that the software would operate for five hours continuously before failing—*i.e.*, the computers should be able to deal with their inputs, both human and automatic, for that amount of time before conking out. "Less than 50 percent of this goal was achieved during operational tests conducted in May 1979," the GAO report noted. "Navy officials however stated that at this stage in a development program the software is satisfactory."

The weight of the system itself is a problem. "The displacement weight of the ship is currently over approved goals, and the addition of the planned vertical launcher (an improved method of launching missiles), more missiles, and the Light Airborne Multipurpose System (LAMPS) III helicopter will increase the weight by more than 100 tons," adds the report.

One might ask what difference 100 tons makes to a big cruiser. The point is that all this extra weight lies on the top of the ship. The radar system itself is already enormously heavy, to say nothing of all the new missile launchers and helicopters.

On the latter point there is, however, a ray of light—in a backhanded sort of way. Under a section called "Reduced anti-submarine warfare capability," the GAO report says that "the LAMP III is not yet in production and will not be available until the follow-on ships are built." So there will be no LAMPS III helicopters on the first ship when it is launched in the middle of next year, just the landing pad.

Unfortunately, there is other bad news on the antisubmarine front. The report notes that "the Tactical Towed Array Sonar is [not] yet in production." Towed sonar enables a ship, by trailing a line astern, to listen for submarines at various depths. But the Navy has tried to go one better and tow a whole series of lines astern at once. This is no problem, so long as the ship is traveling in a straight line. But things can get tricky once it starts to maneuver, as any trawl fisherman could have told them.

Last but not least comes *Aegis'* vulnerability. On this subject, the GAO has this to say: "The ship's combat information center is located above deck within the ship's aluminum plate superstructure and is susceptible to partial damage or complete destruction. If the combat information center is damaged, the ship's fighting capability will be reduced. The Navy is studying ways to reduce the vulnerability of the center."

In fact, if the combat information center is destroyed, the ship's fighting capability will be more than reduced; it will be nonexistent unless the crew resort to small arms. For a crucial part of the ship to be housed in aluminum plates is curious, since aluminum is soft and easy to penetrate, turns into flaming droplets of molten metal when hit by a missile or shell, and corrodes at the point where it interfaces with the steel hull. So why use aluminum? Answer: the Navy must find a way of reducing the top heaviness caused by all that fancy equipment topsides, which consumes no less than four megawatts of power.

RCA, the prime electronics contractor for *Aegis,* refused to discuss details of the system with *Defense Week,* referring all queries to the Navy. At the *Aegis* Program Office of the Naval Systems Command in Washington, Capt. Ted Alexander said that questions about the system must be submitted to the Navy in writing. Ingalls Shipbuilding, a part of Litton Industries, which is building the CG-47 cruiser, also declined comment. A spokesman for Ingalls at Pascagoula, Mississippi, said: "We feel that these questions really ought to be answered by the Navy. We're just building the ship."

President Carter has nominated ***Jack Borsting*** to be comptroller of the Defense Department. Borsting, 51, has been provost and academic dean of the Naval Postgraduate School in Monterey, Calif. since 1974. From 1954 to 1956, he was a nuclear projects officer in the Air Force. If Borsting's nomination is approved by the Senate, he will replace Fred Wacker, who retired from the federal service February 29.

Air Force Flexes Its Firepower

By Jim Stevenson, Nellis Air Force Base, California

"Any potential adversary of the U.S. should be careful not to underestimate America's capability to respond," General Wilbur Creech, commander of the USAF Tactical Air Command, warned at Nellis AFB last week. Creech was speaking to journalists invited to the base for two days to watch parts of the first Red Flag Rapid Deployment Forces (RDF) exercise.

However, in spite of the general's assurances, his audience of aviation and military correspondents were less than wholly convinced. Many of the displays put on for the event were impressive, but did little to demonstrate rapidity in the deployment of forces. And conversations with some of the officers present revealed a noticeable lack of unanimity on the speed with which the Air Force could fulfill its role in the RDF.

Creech's claims, for example, that an Air Force squadron could be in the Middle East in less than 24 hours and that the entire Air Force RDF complement could be in place "within days" and could operate for a sustained period of time on current munitions and spares were disputed by one Air Force officer there. Citing a conversation he said he had had with Col. Leonard Perroots, one of Creech's intelligence officers, this officer claimed that moving the entire Air Force RDF complement would take four or five weeks rather than days. Additionally, he estimated that it would take a year to bring the complement up to its pre-deployment strength.

Much of the Air Force effort seemed to be aimed at dazzling impressionable journalists with displays of flypasts and firepower. There were action-packed examples of how a remote airfield would be taken, dissimilar air combat training between an F-5 and and F-15, dropping of 500-lb. laser-guided bombs by F-4s and a demonstration of deep strike interdiction by way of 2 F-111s dropping MK-84s for a total of 48,000 lbs.

What the Air Force wanted the media's attention for—it became increasingly clear—had little to do with RDF, but a great deal to do with reacting to the failure of the recent Iranian hostage rescue effort. Asked about the raid, Creech delivered a soliloquy on how America has had both failures and successes in the past. Among the latter, he said, were the Berlin airlift, the deployment in response to the Cuban missile crisis, Lebanon and one component of the Iranian raid—the "flawless response of the C-130s."

Creech, during a press conference, also denied suggestions that an Air Force infatuation with technical sophistication is damaging its readiness. The hydraulic leak that affected the Iranian raid helicopter was not "a function of sophistication", he argued, and could happen on any aircraft. "I think," he said, "that it would be a mistake to draw any lessons from the Iranian mission abort that we can't perform."

As evidence of that, the general cited a recent F-111D deployment to England. Although the plane is Tactical Air Command's most sophisticated, he said, for the 30 days that the ten F-111Ds were in Britain, they had a fully mission capable rate of 86 percent and a mission capable rate of 88 percent. (In FY 1979, by comparison, records show that the F-111D had a mission capable rate of 34 percent). "The issue," the general went on, "is not maintenance but lack of spare parts, which is only a function of budgeting. The Air Force is going to buy more spares and less big ticket items."

Creech also cited the purchases by the Air Force of A-10s (a "very unsophisticated aircraft", as he described it) and F-16s ("it came into the world as a lightweight fighter") as evidence of the Air Force's goal of "durability, sustainability, maintainability, reliability or whatever '-ility' you want to call it...After all, we're going to have to fight and maybe die by using it and the last thing we want, I assure you, is a rifle that won't fire or an airplane that won't take off on the day of the war."

The general's corporate memory, in this instance, is rather short. Both the A-10 and the F-16 were imposed on the Air Force by the then Secretary of Defense. A recent Air Force Program Objective Memorandum (POM) also showed a slowing of F-16 purchases and cut out altogether purchases of the last 130 A-10s.

Carter The "MX Doubter"

President Carter was once "the most important doubter" about the need to develop the $34 billion land-based MX missile system, according to Seymour Zeiberg, Deputy Undersecretary of Defense for Strategic and Space Systems.

In a speeech late last week in Salt Lake City, Utah, Zeiberg said that, as early as 1973, it was apparent that the Soviet Union was "working toward the capability to directly attack our (Minuteman) ICBM silos. (The Soviets) were deploying large missiles with up to 10 accurate warheads each." But, as late as 1977, several individuals in the White House, including the President, doubted that the Soviets had achieved the guidance accuracy needed to destroy the Minuteman system, Zeiberg asserted. Minuteman ICBMs are a key weapon in the U.S. nuclear arsenal.

A White House review of the Soviet gains in missile technology, ordered by President Carter in the spring of 1977, concluded that the Soviets would have to develop an entirely new generation of ICBMs to obtain the accuracy they would need to knock out the Minuteman missiles. That would take years, the study stated.

But events soon proved the study wrong. In late 1977, test firings of modernized versions of the SS-18 and SS-19—the Soviets' two largest and most potent ICBMs—provided "compelling evidence" that the Russians had made enormous improvements in missile accuracy, Zeiberg said.

However, after spending "close to a year deciding there was a threat that we had to counter, we would spend another year in picking a response," Zeiberg went on. After reviewing and then casting aside at least 30 alternatives,the Carter Administration selected the land-based MX as the best way to checkmate the Russians.

30mm Gun Pod Faces Further 'Development'

Hopes that the 30mm gun pod may have finally made it into the services' inventory *(Defense Week, No. 8)* may be premature. The crucial issue of whether the gun pod program, a simple, effective weapon system which has already passed all tests with flying colors, should be put straight into production or consigned to the Siberian wastelands of "full scale development" at Eglin Air Force Base in Florida is still being fought over. Eglin, it should be noted, has never produced a successful weapons system—inflicting instead such disasters on the taxpayer as the proximity fuse and the wide area anti-armor munitions, as well as (in its latter stages) the *Maverick* missile (of which more later).

Late last week, the Air Staff was mulling over the PMD (or Program Management Directive) and, according to the Office of Air Warfare a decision to send the program to Eglin is "highly likely". How has this unexpected and ominous turnabout taken place? Apparently the R&D cartel in the Pentagon spearheaded the Air Force Requirements Division appeal to the sentimental side of some of the leading figures in the debate, particularly on the House Armed Services Committee. Eglin, so the argument ran, has never produced a successful weapons system. So why not give the guys down there a break and send them the 30mm gun pod, which needs no further development, for "full scale development" so that they can have some credit at last?

Amazingly enough, this absurd argument prevailed and resistance weakened enough to imperil the fate of the trusted gun pod. The Office of Air Warfare claims defensively that "this does not mean that the thing will go back into the laboratory. Eglin has the capability to run a production program just as Wright Patterson does."

Seasoned observers, however, take no solace from this. The move to Eglin is interpreted as a cunning attempt to kill the project and to make the world safe for high technology air-to-ground systems.

Which brings us to the *Maverick*. The dismal shortcomings of this weapon *(Defense Week,* No.9) include the fact that a pilot needs to make four or five passes over the target to get a successful lock-on—figures that, contrary to the assertions of Hughes Aircraft which makes the *Maverick,* are not classified. According to World War II Luftwaffe ace Col. Hans Ulrich Rudel, the usual range at which anyone can identify a tank even with good eyesight is 500 meters. He should know as he knocked out 519 of them. The minimum launch range of the *Maverick* is at least double that—a tricky fact of life, which an awful lot of dollars and uncountable tests have been unable to alter. Furthermore, a single pass over the target requires 10 to 15 seconds of level straight flight from first sighting the target to launch. As the enemy will be firing back with, among other things, radar-guided multiple rapid fire machine guns, the prospect of flying in a straight line for that amount of time is not going to do much for morale. Rudel reckoned that the longest that he could afford to fly straight, even back in WW II, was three seconds. As one observer put it "it's not that they haven't done a marvelous engineering job on the Electro Optical and the Infra Red *Maverick,* they have. The problem is that the basic concept is total lunacy."

Back in 1975, the U.S. Air Forces in Europe (USAFE) ran very intensive tests with the EO *Maverick*. At the end, the then commander Gen. John Vogt, who on a previous occasion has referred to the missile in the presence of a high level NATO delegation as "a load of crap", sent a message to Washington indicating that he had no use for the missile. The message did not go down well and he retired not long afterwards. Cautionary note: Gen. Vogt is now an advisor on defense matters to Presidential candidate Ronald Reagan. The *Maverick's* future may be endangered.

— *Andrew Cockburn*

State Opens A Door For Foreign Fighter Purchases

The State Department announcement last week that licenses have been granted to two giant defense contractors—Northrop and General Dynamics—for the transfer of technical data on their export fighter planes opens the way for the purchase of American aircraft by at least 15 foreign countries. Austria, long in the market for a new fighter, is said to have narrowed its choice to the General Dynamics F-16 (powered by a General Electric J79 engine) or the French *Mirage 50*. Taiwan wants a new fighter to replace its aging fleet of Lockheed F-104 *Starfighters*. Both countries are on the list approved last week. Government and industry sources say that other countries considering purchase of the F-16 or Northrop's F-5G include Jordan, Brazil, Malaysia, Nigeria, Indonesia, Singapore, Pakistan, Thailand, the Philippines and Venezuela.

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